SPP-A940

SONY

Canadian Model

Serial No. 0,101,999 and later

SERVICE MANUAL

SUPPLEMENT - 1

File this Supplement with the Service Manual.

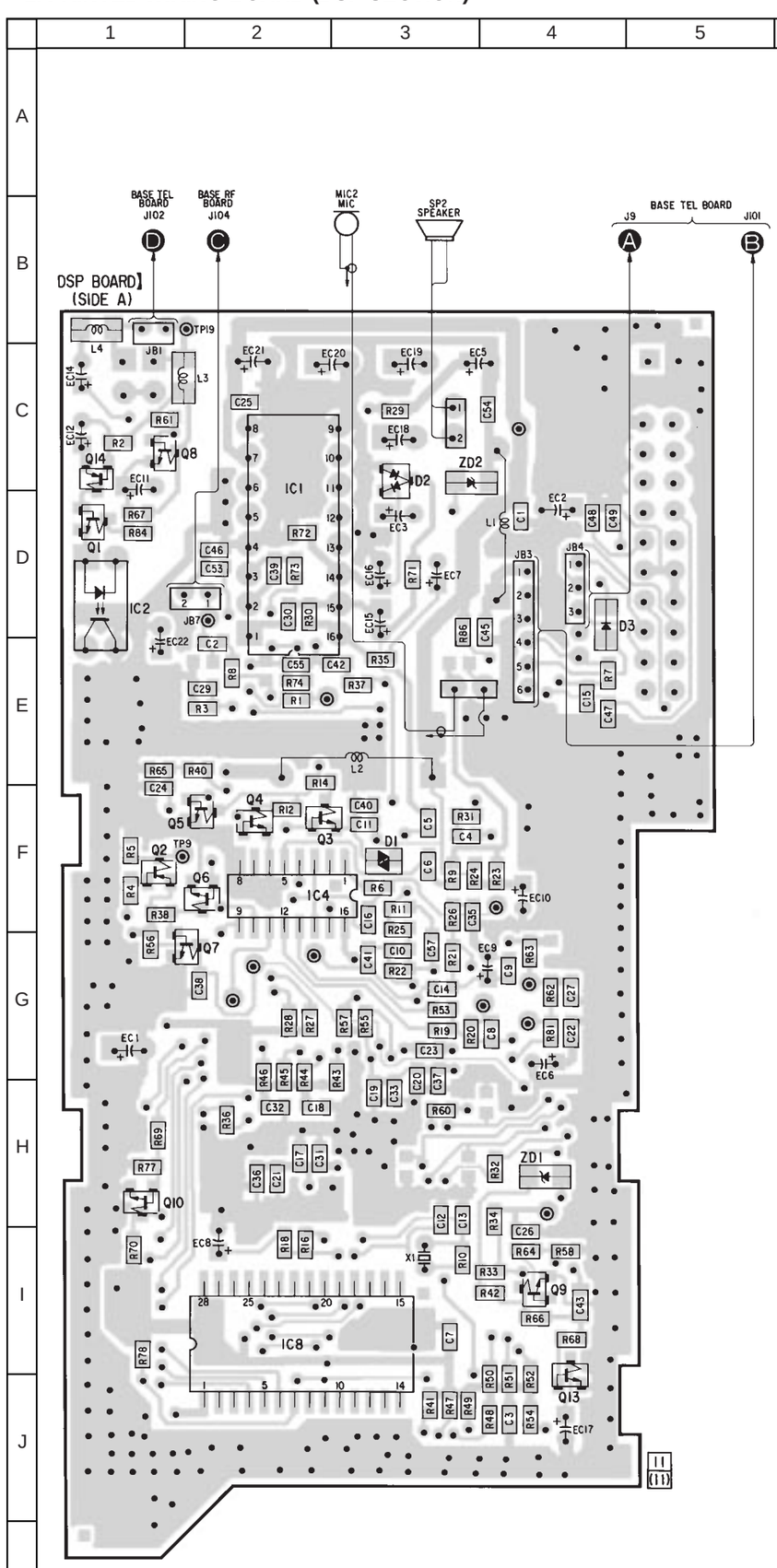
Subject : Change of DSP Board

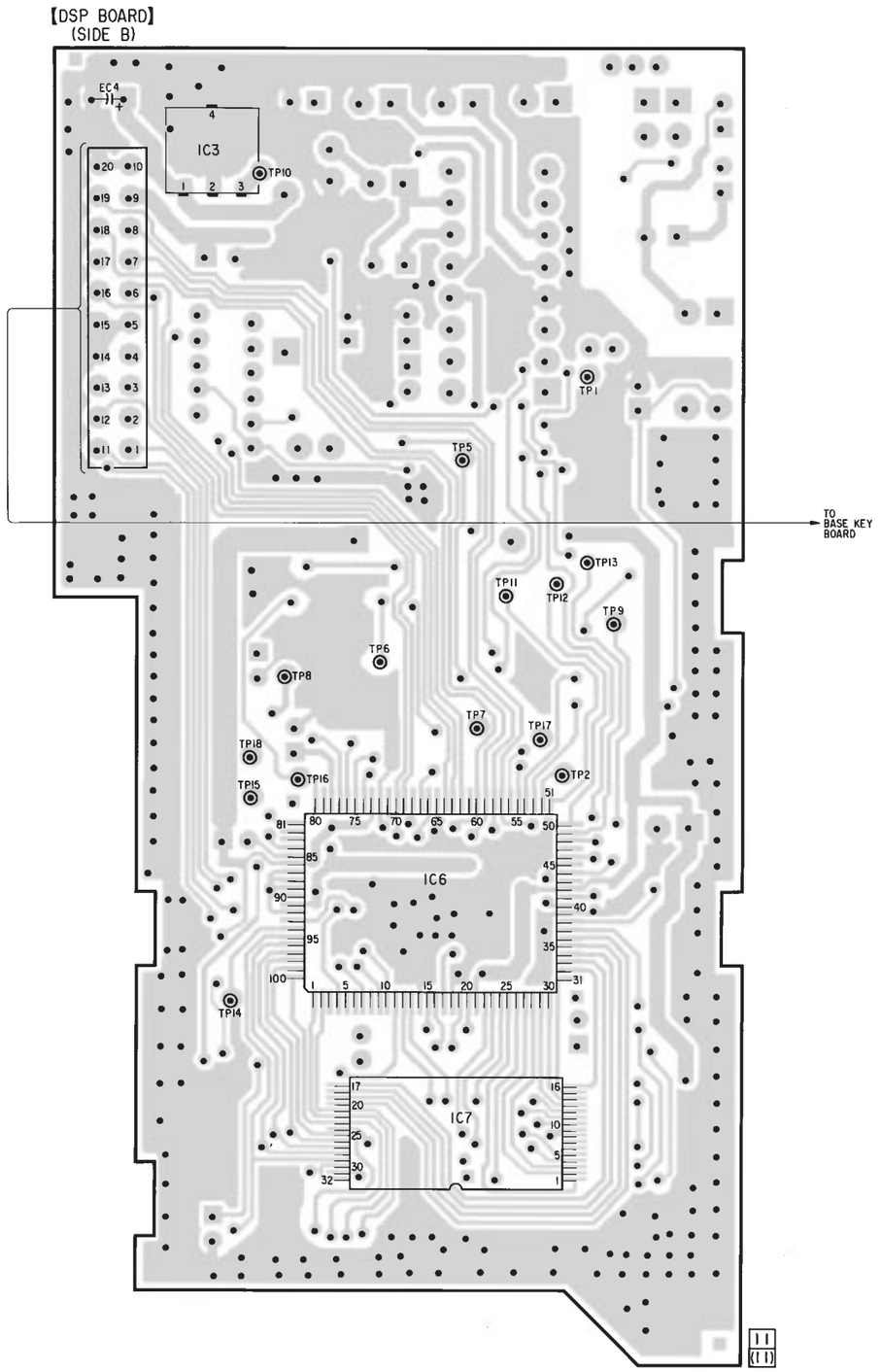
(ECN-CP800943)

1. PRINTED WIRING BOARD (DSP SECTION)

- **Semiconductor Location**

Ref. No.	Location
D1	F-3
D2	C-3
D3	D-4
IC1	D-2
IC2	D-1
IC3	C-7
IC4	F-2
IC6	H-8
IC7	I-9
IC8	I-2
Q1	D-1
Q2	F-1
Q3	F-2
Q4	F-2
Q5	F-2
Q6	F-2
Q7	G-2
Q8	C-1
Q9	I-4
Q10	H-1
Q13	J-4
Q14	C-1
ZD1	H-4
ZD2	C-3





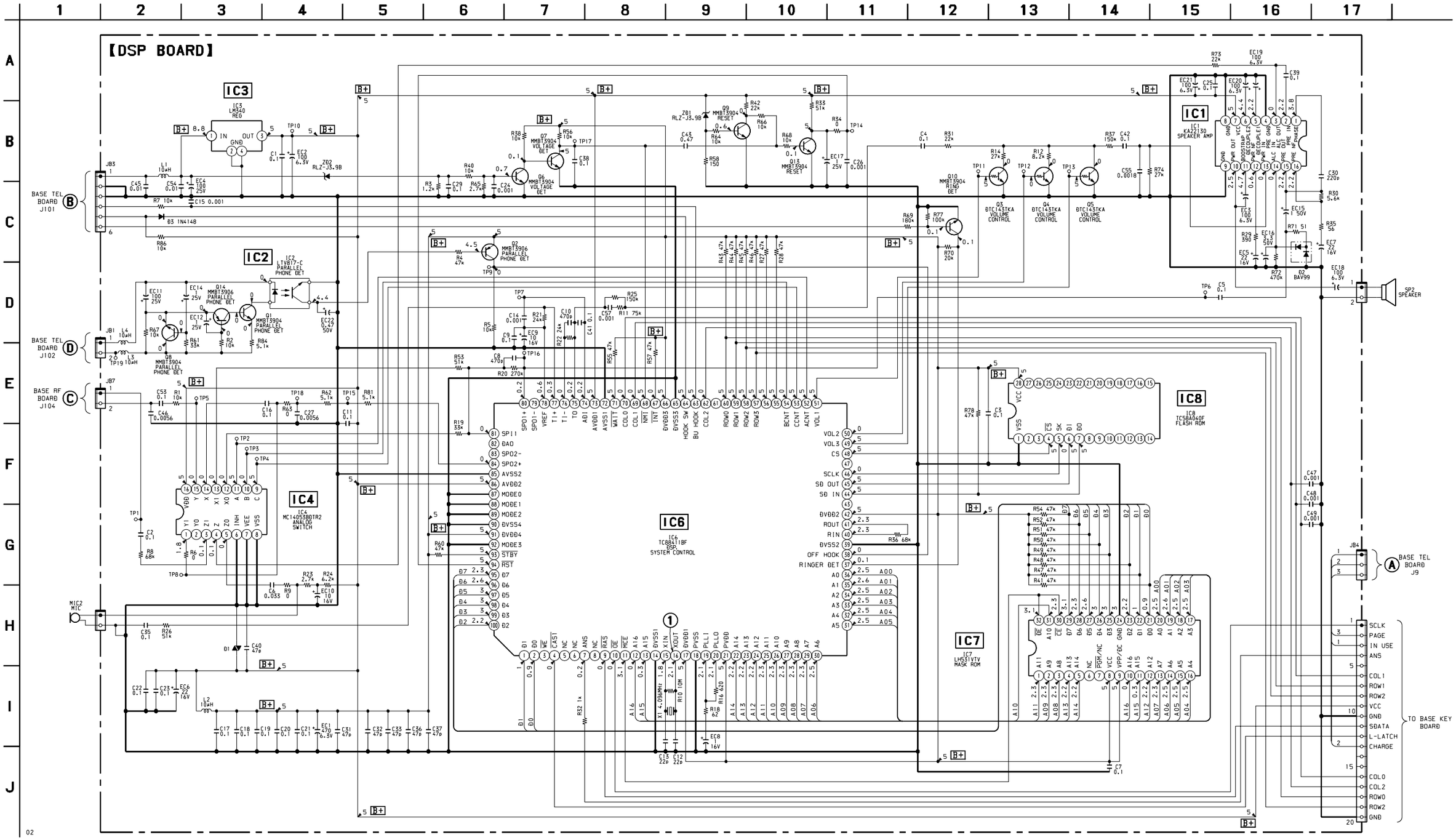
Note:

- ○——— : parts extracted from the component side.
- ● : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

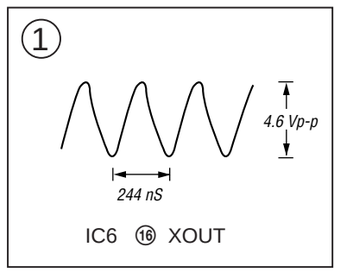
2. SCHEMATIC DIAGRAM (DSP SECTION)



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line.
- Power voltage is dc10V and fed with regulated dc power supply from external power voltage jack (J8).
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

● **Waveform**



DSP

3. ELECTRICAL PARTS LIST

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ , for example :
  uA.... : µ A.... , uPA.... : µ PA....
  uPB.... : µ PB.... , uPC.... : µ PC....
  uPD.... : µ PD....
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3672-662-A	DSP BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C2	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C3	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C4	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C5	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C6	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C7	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C8	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C9	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C10	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C11	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C12	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C13	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C14	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C15	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C16	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C17	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C18	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C19	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C20	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C21	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C22	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C23	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C24	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C25	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C26	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C27	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C29	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C30	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C31	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C32	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C33	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C35	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C36	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C37	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C38	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C39	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C40	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C41	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C42	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C43	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C45	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C46	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C47	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C48	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C49	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C53	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C54	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C55	1-162-977-11	CERAMIC CHIP	0.0018uF	10%	50V
C57	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
EC1	1-126-935-11	ELECT	470MF	20%	6.3V
EC2	1-124-225-11	ELECT	100uF	20%	6.3V
EC3	1-124-225-11	ELECT	100uF	20%	6.3V
EC4	1-128-111-11	ELECT	100MF	20%	25V
EC5	1-124-234-00	ELECT	22uF	20%	16V
EC6	1-124-234-00	ELECT	22uF	20%	16V
EC7	1-124-234-00	ELECT	22uF	20%	16V
EC8	1-126-160-11	ELECT	1uF	20%	50V
EC9	1-124-233-11	ELECT	10MF	20%	16V
EC10	1-124-233-11	ELECT	10MF	20%	16V
EC11	1-128-111-11	ELECT	100MF	20%	25V
EC12	1-126-160-11	ELECT	1uF	20%	50V
EC14	1-126-160-11	ELECT	1uF	20%	50V
EC15	1-126-160-11	ELECT	1uF	20%	50V
EC16	1-115-873-11	ELECT	3.3uF	20%	50V
EC17	1-126-160-11	ELECT	1uF	20%	50V
EC18	1-124-225-11	ELECT	100uF	20%	6.3V
EC19	1-124-225-11	ELECT	100uF	20%	6.3V
EC20	1-124-225-11	ELECT	100uF	20%	6.3V
EC21	1-124-225-11	ELECT	100uF	20%	6.3V
EC22	1-115-870-11	ELECT	0.47uF	20%	50V
		< DIODE >			
D1	1-801-729-11	DIODE	VARISTOR, CHIP		
D2	8-719-909-90	DIODE	BAV99		
D3	8-719-976-19	DIODE	RLS-4148		
ZD1	8-719-971-83	DIODE	RLZ-J3.9B		
ZD2	8-719-971-83	DIODE	RLZ-J3.9B		
		< IC >			
IC1	8-759-579-41	IC	KA22130		

DSP

Ref. No.	Part No.	Description			Remark
IC2	8-719-018-89	PHOTO COUPLER LTV817-C			
IC3	8-759-579-40	IC LM340MPX-5.0			
IC4	8-759-441-31	IC MC14053BDTR2			
IC6	8-759-489-41	IC TC88411BF-121			
IC7	8-759-579-39	IC LH531VTV			
IC8	8-759-489-92	IC TC58A040F			
		< COIL >			
L1	1-408-117-00	INDUCTOR	10uH		
L2	1-408-117-00	INDUCTOR	10uH		
L3	1-412-951-11	INDUCTOR CHIP	10uH		
L4	1-412-951-11	INDUCTOR CHIP	10uH		
		< TRANSISTOR >			
Q1	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q2	8-729-026-07	TRANSISTOR	MMBT3906LT1		
Q3	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q4	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q5	8-729-027-56	TRANSISTOR	DTC143TKA-T146		
Q6	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q7	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q8	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q9	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q10	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q13	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q14	8-729-026-07	TRANSISTOR	MMBT3906LT1		
		< RESISTOR >			
R1	1-216-833-11	METAL CHIP	10K	5%	1/16W
R2	1-216-833-11	METAL CHIP	10K	5%	1/16W
R3	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R4	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5	1-216-833-11	METAL CHIP	10K	5%	1/16W
R6	1-216-864-11	METAL CHIP	0	5%	1/16W
R7	1-216-833-11	METAL CHIP	10K	5%	1/16W
R8	1-216-843-11	METAL CHIP	68K	5%	1/16W
R9	1-216-864-11	METAL CHIP	0	5%	1/16W
R10	1-219-570-11	METAL CHIP	10M	5%	1/16W
R11	1-218-296-11	METAL CHIP	75K	5%	1/16W
R12	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R14	1-216-838-11	METAL CHIP	27K	5%	1/16W
R16	1-220-373-11	RES,CHIP	620	5%	1/16W
R18	1-220-370-11	RES,CHIP	62	5%	1/16W
R19	1-216-839-11	RES,CHIP	33K	5%	1/16W
R20	1-216-850-1-1	METAL CHIP	270K	5%	1/16W
R21	1-218-293-11	METAL CHIP	24K	5%	1/16W
R22	1-218-293-11	METAL CHIP	24K	5%	1/16W
R23	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R24	1-218-290-11	RES,CHIP	6.2K	5%	1/16W
R25	1-216-847-11	METAL CHIP	150K	5%	1/16W
R26	1-218-331-11	RES,CHIP	51K	5%	1/16W
R27	1-216-841-11	METAL CHIP	47K	5%	1/16W
R28	1-216-841-11	METAL CHIP	47K	5%	1/16W
R29	1-216-816-11	METAL CHIP	390	5%	1/16W
R30	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R31	1-216-837-11	METAL CHIP	22K	5%	1/16W
R32	1-216-821-11	METAL CHIP	1K	5%	1/16W
R33	1-218-331-11	RES,CHIP	51K	5%	1/16W
R34	1-216-864-11	METAL CHIP	0	5%	1/16W
R35	1-216-806-11	METAL CHIP	56	5%	1/16W
R36	1-216-843-11	METAL CHIP	68K	5%	1/16W
R37	1-216-847-11	METAL CHIP	150K	5%	1/16W
R38	1-216-833-11	METAL CHIP	10K	5%	1/16W
R40	1-216-833-11	METAL CHIP	10K	5%	1/16W
R41	1-216-841-11	METAL CHIP	47K	5%	1/16W
R42	1-216-837-11	METAL CHIP	22K	5%	1/16W
R43	1-216-841-11	METAL CHIP	47K	5%	1/16W
R44	1-216-841-11	METAL CHIP	47K	5%	1/16W
R45	1-216-841-11	METAL CHIP	47K	5%	1/16W
R46	1-216-841-11	METAL CHIP	47K	5%	1/16W
R47	1-216-841-11	METAL CHIP	47K	5%	1/16W
R48	1-216-841-11	METAL CHIP	47K	5%	1/16W
R49	1-216-841-11	METAL CHIP	47K	5%	1/16W
R50	1-216-841-11	METAL CHIP	47K	5%	1/16W
R51	1-216-841-11	METAL CHIP	47K	5%	1/16W
R52	1-216-841-11	METAL CHIP	47K	5%	1/16W
R53	1-218-331-11	RES,CHIP	51K	5%	1/16W
R54	1-216-841-11	METAL CHIP	47K	5%	1/16W
R55	1-216-841-11	METAL CHIP	47K	5%	1/16W
R56	1-216-833-11	METAL CHIP	10K	5%	1/16W
R57	1-216-841-11	METAL CHIP	47K	5%	1/16W
R58	1-216-811-11	METAL CHIP	150	5%	1/16W
R60	1-216-841-11	METAL CHIP	47K	5%	1/16W
R61	1-216-839-11	METAL CHIP	33K	5%	1/16W
R62	1-218-272-11	RES,CHIP	5.1K	5%	1/16W
R63	1-216-864-11	METAL CHIP	0	5%	1/16W
R64	1-216-833-11	METAL CHIP	10K	5%	1/16W
R65	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R66	1-216-833-11	METAL CHIP	10K	5%	1/16W
R67	1-216-833-11	METAL CHIP	10K	5%	1/16W
R68	1-216-833-11	METAL CHIP	10K	5%	1/16W
R69	1-216-848-11	METAL CHIP	180K	5%	1/16W
R70	1-218-292-11	RES,CHIP	20K	5%	1/16W
R71	1-220-151-11	METAL CHIP	51	5%	1/16W
R72	1-216-853-11	METAL CHIP	470K	5%	1/16W
R73	1-216-873-11	METAL CHIP	22K	5%	1/16W
R74	1-216-838-11	METAL CHIP	27K	5%	1/16W
R77	1-216-845-11	METAL CHIP	100K	5%	1/16W
R78	1-216-841-11	METAL CHIP	47K	5%	1/16W
R81	1-218-272-11	RES,CHIP	5.1K	5%	1/16W
R84	1-218-272-11	RES,CHIP	5.1K	5%	1/16W
R86	1-216-833-11	METAL CHIP	10K	5%	1/16W
		< VIBRATOR >			
X1	1-767-706-11	VIBRATOR, CRYSTAL (4.096MHz)			

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